

6. NOCTILIO LEPORINUS, Linné.
7. FURIA HORRENS, F. Cuv.
8. MOLOSSUS OBSCURUS, Geoffr.
9. VESPERTILIO PARVULUS, Temminck.

4. On the Classification of the small *Dasyuridæ* of Australia, with Descriptions of Two New Genera and One New Species. By GERARD KREFFT, Curator and Secretary of the Australian Museum, Sydney, New South Wales, Corr. Memb.

(Plate XXXVI.)

Few groups of animals have been so little understood as the small Marsupial Insectivores of Australia; the difficulty in procuring a number of specimens of these nocturnal creatures, and the carelessness of some authors, who will not take the trouble to examine a species properly before assigning it a position in the genus to which it appears to belong, have caused a confusion which I will try to correct.

The Marsupial Insectivora have hitherto been divided into three genera:—*Phascogale* (Temminck), *Antechinus* (MacLeay), and *Podabrus* (Gould). Of these, only two, namely *Phascogale* and *Antechinus*, have been defined by their respective founders; while of *Podabrus* I cannot ascertain the true characters beyond what Mr. Waterhouse tells us, that it comprises the *Phascogalæ* with slender feet. Whether this is sufficient for the establishment of a new genus without giving some information regarding the teeth of the animal, I do not know; but for the present it will perhaps be better to retain the genus. I now propose to divide these small Insectivores as follows:—

PHASCOGALE, Temminck.

Dasyuridæ with the two foremost incisors of the upper and lower jaw larger than the others, with short broad feet, more or less naked tarsi, rather long and soft fur, and with five toes to each foot, the inner toe of the hind foot being a nailless prehensile thumb.

Habits arboreal. Pouch absent. Mammæ ten. Apical portion of tail clothed with long bushy hair. Dentition:—I. $\frac{4-4}{3-3}$; C. $\frac{1-1}{1-1}$; P. $\frac{3-3}{3-3}$; M. $\frac{4-4}{4-4}$ = 46.

1. PHASCOGALE PENICILLATA (Gould, Mamm. Austr. i. pl. 31).

Hab. The coast districts from Swan River to New South Wales.

2. PHASCOGALE CALURA (ibid. pl. 32).

Hab. The interior of Australia, from the Williams River to the Lower Murray, including Victoria, South Australia, and New South Wales.

ANTECHINUS, MacLeay.

Dentition as in *Phascogale*. Fur rather harsh and short. Tail clothed throughout with short hair. The feet broad and robust. Tarsi more or less naked. First pair of incisors equal to, or but slightly larger than the other front teeth; canines more developed than any of the premolars; and the articulating condyle of the lower jaw more elevated than in the genus *Phascogale*. Provided with a pouch, which is sometimes very shallow; with ten mammæ; and arboreal in their habits.

1. ANTECHINUS FLAVIPES (Gould, Mamm. Austr. i. pl. 40).

2. A. LEUCOGASTER (ibid. pl. 38).

3. A. UNICOLOR (ibid. pl. 37).

4. A. FERRUGINIFRONS (ibid. pl. 36).

These three species are probably all local varieties of the first, *A. flavipes*. I have removed a number of skulls from specimens answering to Mr. Gould's description of the above species, but could detect no difference in the shape of the skull or the dentition. Besides, *A. flavipes* has a very wide distribution, and is found from Cape Horn to the Tropics on the east coast; it is also a common animal in the interior of South Australia and New South Wales.

5. A. SWAINSONII (ibid. pl. 34).

Hab. Tasmania.

6. A. APICALIS (ibid. pl. 39).

Hab. West Australia.

7. A. AFFINIS.

Hab. Tasmania.

8. A. MACULATUS (ibid. pl. 44).

Hab. Queensland.

9. A. MINUTISSIMUS (ibid. pl. 45).

Hab. Queensland.

Some of these species, as *A. affinis* and *A. maculatus*, I have not seen; but they belong probably to the broad-footed section of this genus.

PODABRUS, Gould.

Antechini with small, slender feet, five toes to each foot, the small nailless thumb situated still further back than in the genus *Antechinus* proper. Fur very soft and dense, of a woolly texture. Canines small, seldom exceeding the largest premolar in size. Pouch with generally ten, sometimes with only eight mammæ. Terrestrial in their habits.

2. C. Howe

1. *PODABRUS MACROURUS* (Gould, Mamm. Austr. i. pl. 46).

Hab. The east coast of Australia.

2. *P. CRASSICAUDATUS* (ibid. pl. 47).

Hab. The interior of South Australia, Victoria, and New South Wales; in the last two colonies the Lower Murray district.

Mammæ ten.

3. *P. FULIGINOSUS* (ibid. pl. 41).

Hab. West Australia.

Mammæ eight.

The last-mentioned species, I am informed by Mr. George Masters (who collected during the last nine months at the head of Spencer's Gulf and King George's Sound), is truly terrestrial in its habits, never climbing, and being generally found in deserted ants' nests. Of the forty or fifty specimens obtained, more than thirty were females, and all have eight mammæ; while *Antechinus albipes*, which is common on the Lower Murray and near Sydney, has ten mammæ in the pouch.

4. *P. ALBIPES* (ibid. pl. 42).5. *P. MURINUS* (ibid. pl. 43).

These two species are no doubt varieties of each other: a few white or black hairs on the tail, or a "wash of brown," as Mr. Gould often has it, are not sufficient to distinguish one animal from another; besides the two plates of these little creatures in the 'Mammals of Australia' are so much alike that I am sure the artist himself could not tell which was *P. murinus* and which *P. albipes*.

6. *P. LEUCOPUS* (ibid. pl. 35).

This, according to Mr. Waterhouse, is also a variety. Its habitat is stated to be Tasmania.

7. *P. MITCHELLI*, sp. nov.

This new species is by far the largest of the small Dasyuridæ with thick woolly furs. A single, much mutilated specimen, with a note attached that it was obtained by the great Australian explorer, I found in a heap of rubbish some years ago. I always thought that it was a new animal; and having now closely investigated the whole family, I no longer hesitate to describe it.

The fur is similar to that of *Phascogale lanigera* of Gould—long, thick, woolly, and beautifully soft hairs slate-grey at the base, light brown on the apical portion, and tipped with black. The ears are long, covered with short brownish hairs. The feet white. The tail is longer than the body; and what remains of the covering shows that the hair was long and probably ended in a tuft. The under part of the body is whitish. Total length 11 inches, the tail being about one-half of it or $5\frac{1}{2}$ inches, the ears $\frac{7}{8}$ inch, tarsi 1 inch. The measurement is not strictly accurate, on account of the dried condition of

the skin ; a well-preserved full-grown animal would probably measure more. The skull is perfect, the form of the teeth approaching those of *P. lanigera* ; the first two incisors in the upper jaw are slightly pushed forward, though not longer than the others ; there is a space about the size of a tooth between the last incisor and the canine, which has been broken at the root, but, as far as I can see, has not been larger than the third premolar. The molars present the usual triangular shape ; the second is the largest ; the fourth narrow and transverse. There are three incisors, of almost equal size, in the lower jaw ; a pair of slender rather curved canines, which are not so broad at the base as those of *Phascogale* proper ; three premolars, of which the second is the largest, the first and third being about equal ; and four molars, the middle two of equal size and larger than the first and fourth.

Hab. The interior of New South Wales ?

ANTECHINOMYS, gen. nov.

The Dasyuridæ which I propose to arrange under the above name will comprise those truly terrestrial animals which are provided with only four toes on the hind foot, without any indication of a thumb, which have the tarsi completely covered with hair, and the underside of the toes and foot alone naked. They move by a succession of jumps, and have a tail longer than their body.

Dentition like *Podabrus*, with the canines still less developed.

At present this genus would comprise a single species only, namely, the animal described by Mr. Gould as *Phascogale lanigera*.

ANTECHINOMYS LANIGERA (Gould, Mamm. Austr. i. pl. 33).

I think that naturalists will agree with me, that an animal so different in its habits, the structure of its limbs, and the form of its teeth from *Phascogale* should have long ago been separated therefrom. I have not the least doubt that the little animal figured in the 'Mammals of Australia' upon the branch of a tree *with only four toes* is identical with another in this Museum, presented by the late Sir Thomas Mitchell ; and as I have had many opportunities of observing it alive, I can confidently state that it is a truly terrestrial species.

Hab. The Lower Murray River district, near the junction of the Darling.

CHÆTOCERCUS, gen. nov.

This new genus, which will conclude the small Dasyuridæ of Australia, has been founded upon a very singular animal, approaching in its dentition *Dasyurus* proper much more than any other known genus, and may be defined as follows :—

Dasyuridæ with short, broad, almost triangular head and strongly developed auditory bulla, which equals that of *Phascogale penicillata* in size. Canine teeth in the upper jaw strong and elongate, not so broad at the base as in the genus *Phascogale*. Incisors long and

